

A New Species of *Danaea* from Peru

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Current studies for the "Pteridophytes of Peru," in which I am collaborating with Dr. Rolla Tryon of Harvard University, have already yielded some fascinating discoveries worthy of special note. The first of these to come to my attention was a new species of *Danaea*, which is hereunder described.

6104 ***Danaea oblanceolata*** Stolze, sp. nov. (Figs. 1-3). ✓ TYPE: Peru, Dept. Pasco (as Junín), Cahuapanas, on Río Pichis, Killip & Smith 26777 (US, frag. F).

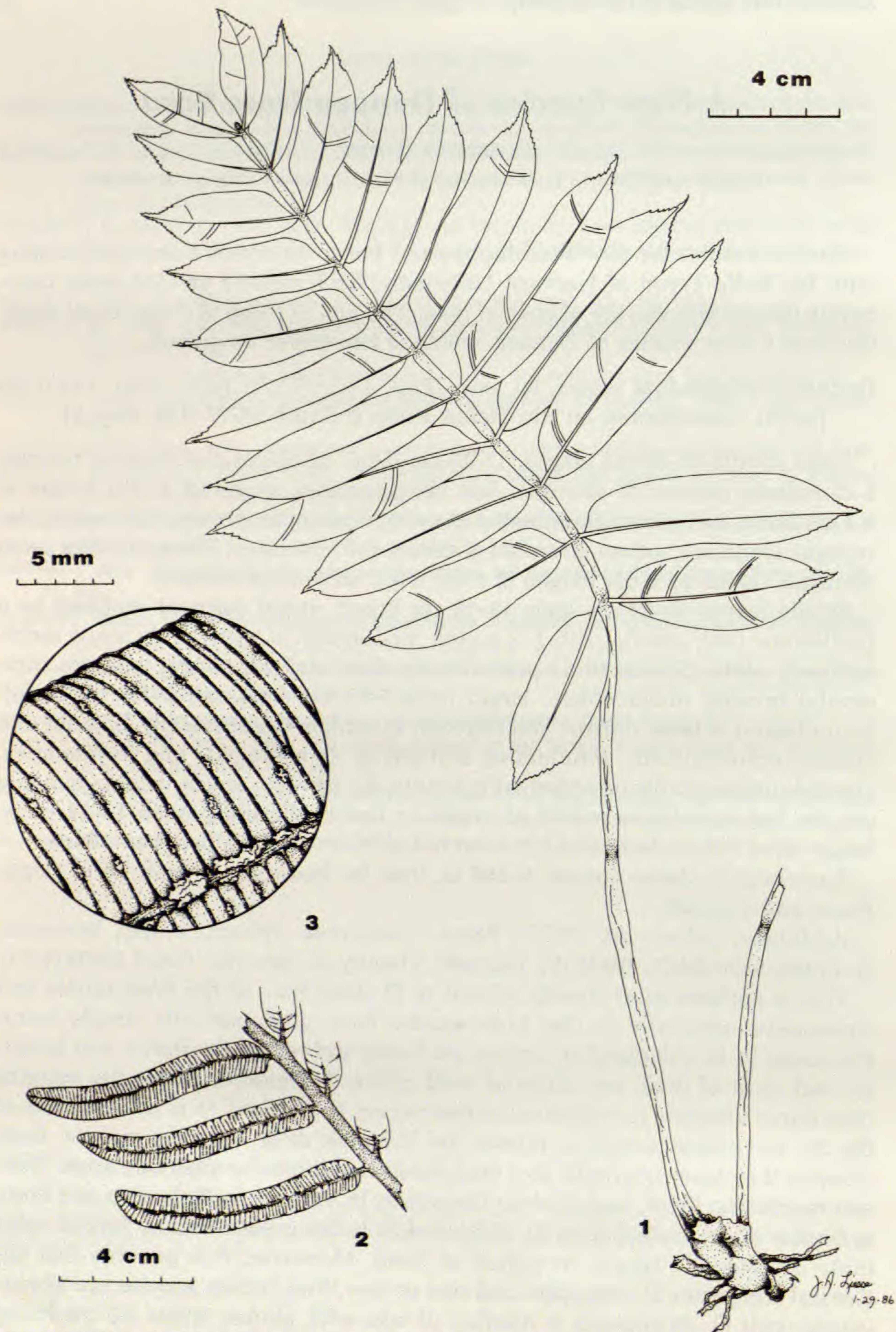
Folia sterilia 40-50 cm longae, 13-18 cm latae, ad apices prolificantia; petiolus 1-2-nodosus; pinnae 10-12-jugae, late oblanceolatae, usque ad 11 cm longae et 2.8 cm latae, ad apicem acuminatae et serratae abrupte terminantes; venae plerumque simplices, autem interdum geminae vel 1-furcatae. Pinnae fertiles circa 12-jugae, usque ad 8 cm longae et 1 cm latae, ad apicem obtusae.

Sterile leaves 40-50 cm long, 13-18 cm broad, apical segment replaced by a proliferous bud; petiole with 1-2 nodes, moderately to abundantly scaly; rachis narrowly alate; pinnae 10-12 pairs, mostly short-stalked, oblong to (more commonly) broadly oblanceolate, larger ones 7-11 cm long and 2-2.8 cm broad, inequilateral at base, narrow and rounded to cordate basiscopically, broader and cuneate acroscopically, terminating abruptly in an acuminate and serrate apex, abaxial surface amply provided with minute, dark brown scales; veins commonly simple, but sometimes paired at origin or forked. Fertile pinnae 12-14 pairs, larger ones 7-8 cm long and 0.8-1 cm broad, short-stalked, the apex obtuse.

Terrestrial in dense forests, 0-500 m, thus far known only from Peru: Depts. Pasco and Ucayali.

Additional collections: PERU. **Pasco:** Oxapampa, Palcazu Valley, Iscozacín, R. Foster 9466 (MO), 10049 (F). **Ucayali:** Vicinity of Aguaytia, Croat 20938 (MO).

This is perhaps most closely related to *D. alata* Sm., of the West Indies and Venezuela, especially in that both species have predominantly simple veins. However, in *D. oblanceolata* pinnae are fewer and relatively shorter and broader, and most of them are broadest well above the middle, where the margins then curve abruptly to a short-acuminate apex. In *D. alata*, as in all members of the *D. moritziana* complex, pinnae are broadest at or near the middle, from whence they taper gradually to a moderately acuminate or attenuate apex. *Danaea moritziana* Presl, found rather frequently in Venezuela, Colombia and Peru, is further distinguished from *D. oblanceolata* in the predominantly forked veins (only occasionally simple or paired at base). Moreover, it is possible that the Central American *D. cuspidata* and one or two West Indian species are synonymous with *D. moritziana*. A number of taxa with pinnae under 2.5 cm broad were separated by Underwood (Bull. Torrey Bot. Club 29:669-679. 1902), merely on the degree of forking and spacing of veins, an apparently inconsistent char-



FIGS. 1-3. *Danaea oblanceolata*. FIG. 1. Habit, sterile leaf, showing apical proliferous bud. FIG. 2. Portion of rachis and three fertile pinnae. FIG. 3. Section of sterile pinna, abaxial side, with predominantly simple veins, amorphous scales on costa and veins.

acter correlated rarely or not at all by other features; hence, a comprehensive revision of the genus is needed to clarify the taxonomy.

In all the specimens of *D. oblanceolata* thus far examined, a proliferous bud has been found at the apex of the sterile leaves. This character has been observed in three of the other five species of the genus in Peru; it is frequently found in *D. humilis* Moore and *D. trichomanoides* Moore, and occasionally in *D. moritziana*. Apical proliferations are also found in several other West Indian and Central American species. Although this is an interesting feature, it is usually not a diagnostic one, for in most species with which I am familiar, it is not fully constant.

REVIEWS

"A monograph of the fern genus *Pyrrosia* (Polypodiaceae)," by P. Hovenkamp. 1986. xiii + pp. 1-280 including 6 pp. of photos and 37 figs. "The *Pyrrosia* species formerly referred to *Drymoglossum* and *Saxiglossum* (Filicales, Polypodiaceae)," by W. J. Ravensberg and E. Hennipman. 1986. pp. 281-310, 4 figs. Leiden Botanical Series, Vol. 9. Available from E. J. Brill, P.O. Box 9000, 2300 PA Leiden, Netherlands, 120 guilders, approx. \$53.33. ISBN 90-04-08065-1.

Pyrrosia is among the most abundant of Old World epiphytes in both individuals and species. In his 1947 *Genera Filicum*, Copeland estimated 100 *Pyrrosia* species without including *Drymoglossum*, a number now reduced to a conservative 51 by Hovenkamp, Ravensberg, and Hennipman.

Although combined in a single volume, the monograph has two sections with different authors; the pagination is continuous, and all species are included in one key, but the indices to collections and taxonomic names are not integrated. The much smaller second portion by Ravensberg and Hennipman treats six species of four different affinities, grouped only because the six were often referred to *Drymoglossum* and *Saxiglossum*, both reduced to *Pyrrosia*. The main treatment dealing with 45 species, by Hovenkamp, also has detailed sections on morphology, phylogeny, and biogeography. Altogether it is a very thorough and impressive accumulation of information. The nomenclature, descriptions, and distributions are authoritative and very useful.

However, the chapter on phylogeny was not easy for me to understand, and I found the premise, that *Pyrrosia* and *Platynerium* are sister genera, unlikely. Such would require that an immediate ancestor of *Platynerium* was also the ancestor of all extant *Pyrrosia*. A more attractive hypothesis is that *Pyrrosia* is considerably older than the highly specialized *Platynerium*, and had already diversified into plural species we would unhesitatingly classify as *Pyrrosia* if extant today, and that one of these early *Pyrrosia* species was the source of *Platynerium*.

Perhaps the sister genus misconception has led to further misconceptions. I believe the immediate ancestor of *Pyrrosia* was very similar to other polypods, sharing a creeping rhizome with internal sclerenchyma strands, peltately at-